

BLUMER (G)

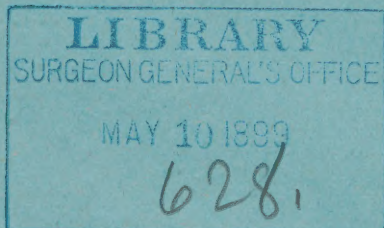
A Case of Adenomyoma of the  
Round Ligament

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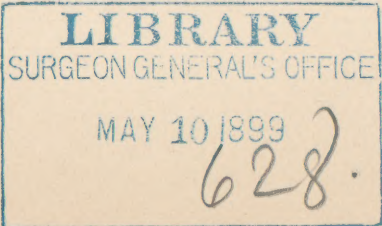
## A CASE OF ADENOMYOMA OF THE ROUND LIGAMENT.

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WHILST even simple myoma of the round ligament is a relatively rare affection, adenomyoma seems to be extremely rare, as apparently only two well-authenticated cases exist in the literature. It therefore seems worth while to report the following case, that of an adenomyoma originating in all probability from the round ligament. The case occurred in the practice of Dr. A. Vander Veer, to whom I am indebted for the clinical history and the specimen.

The main points in the clinical history are as follows: Mrs. G. R. M., age 47. The family history is negative. The patient has had one child. Menstruation has always been regular and natural. Twenty-three years ago a growth first appeared in the right groin; at that time it was in the form of two distinct enlargements, each about the size of a kernel of corn. These gradually united into one mass, which grew very slowly. During the last three years there has been a perceptible but slight increase. For the past six months the growth has been rapid. The growth has never been painful, even at the menstrual period. At the time of the operation there was a growth the size of a hen's egg situated in the right inguinal region a little external to the inguinal canal and nearly midway between the external and internal rings. The removal of the growth was done under cocaine, the deep attachments of the tumor being of especial interest. In his report Dr. Vander Veer says: "The deep attachments of the tumor were such as to attract my attention, as I was obliged to expose the deeper layers of the fascia, and I believed at the time that it originated from the inguinal canal itself." The patient made a good recovery and has been perfectly well since.

*Macroscopic Appearances.*—The specimen consists of a nodule the size of a hen's egg, on one side of which is an area of thin, normal-looking skin. The nodule lies just beneath the



skin, and is surrounded by a quantity of normal-looking fat, to which its thin capsule is adherent externally. The tumor is firm in consistence, and on section has a grayish-white color, with here and there a pin-point to pin-head-sized area of hemorrhage. The cut surface has in places a homogeneous appearance, but for the most part is made up of bands of closely interlacing fibres, and here resembles an ordinary uterine myoma. Here and there throughout the tumor are seen small openings, which are apparently cross sections of blood vessels. No connection with any cord-like structure is to be seen.

*Microscopic Appearances.*—The tumor is mainly composed of bundles of non-striped muscle running in various directions, some of the muscle cells being cut in the longitudinal or oblique direction, whilst many others are cut transversely. In the latter instance the cell substance is often seen to be swollen and to present a vacuolated appearance, and in some places numbers of nuclei have disappeared. The same changes can be seen, though less distinctly, in the places where the fibres have been cut longitudinally. In one or two places adjacent to the skin surface the tumor substance has lost its nuclei and takes the eosin stain strongly. In these areas a considerable number of polynuclear leucocytes are seen infiltrating the necrotic substance. The number of vessels in the tumor is very large, and this is especially true of the section which contains the glandular elements. In this section there are collected, in a fairly well circumscribed area, a number of large-sized arteries and a corresponding number of veins. Nowhere else does a similar collection of such large blood vessels occur, though there is an abundant blood supply in all parts of the tumor. The smaller vessels throughout the tumor show very marked hyaline degeneration of their walls, and this is particularly well seen in specimens stained by Van Gieson's method.

The glandular elements were only found in one section of the tumor, that already described as containing a collection of quite large blood vessels. These elements appear as round or oval cross sections of glands, or occasionally as dichotomously branched gland spaces. The glands are not surrounded by a definite stroma like the uterine glands, but lie immediately adjacent to the muscle fibres. In places there seem to be circular bands of fibres surrounding the glands, but close examination shows that such bundles are made up of cells exactly resembling the muscle cells, and, furthermore, in places they can be traced out into the tumor substance with which they blend.



The cells lining the gland spaces are sometimes one row, sometimes two rows deep; they are large and cylindrical, and have oval, darkly staining, vesicular nuclei. The protoplasm is moderate in amount, and in a few places is seen to be distinctly ciliated. At one point in the immediate neighborhood of the gland structures there is to be seen an irregular space filled with epithelial cells which resemble those lining the glands. In an adjacent field are two small cysts, one of which is partly filled up with cells similar to those lining the glands, the other being lined on one side by these cells. The cysts appear empty, the contents either having been fluid or else having been removed in the manipulation of the tumor. No structures resembling the pseudo-glomeruli of Von Recklinghausen were made out. Neither the cells lining the gland spaces nor those in the immediate neighborhood showed any signs of pigmentation.

The two cases most resembling the one at present under consideration are those of Cullen and Martin.

In Cullen's case a nodule had existed for eight years in the right inguinal region, giving rise to severe pain, which was most marked at the menstrual periods. The tumor was surrounded by fat as in our case, but retained a distinct attachment to the round ligament. The histological examination showed gland-like structures throughout the growth, which, as far as the gland cells were concerned, seemed similar to those occurring in our case. They differed in that the glands were generally surrounded by a definite stroma similar to the stroma which surrounds normal uterine glands. Cullen, however, states that in places the glands were found directly between the muscle fibres. No cyst-like cavities were found in this case. In Martin's case the tumor was situated in the pelvic cavity and was attached to the left round ligament. It was for the most part cystic, the contents of the cyst being a thin, chocolate-colored fluid. The histological examination, made by Pommorsky, showed that the wall of the cyst was made up of detritus, fat, and cholesterin, but there were present in the pedicle of the tumor small intercommunicating cyst cavities, filled with a clear fluid, and one of them lined with low cylindrical, ciliated epithelium.

Any case of cystic tumor of the round ligament might belong to this group, and Cullen has collected several such cases, which are reviewed in his article. In some of these the cysts were either dilated lymph spaces or due to degenera-

tion of the tumor, and in other cases only the gross appearances were reported and it was impossible to pass a definite opinion upon the nature of the growth. Besides the cystic tumors described by Aschenbourn, Coulson, Duplay, and Leopold, and commented on by Cullen, we find that Duplay cites another case, that of Paletta. The tumor in this case was the size of a walnut and situated in the upper part of the right labium majus; it was cystic and filled with a clear, limpid fluid. No microscopical examination was made. The tumor had distinct attachments to the round ligament.

The most interesting question arising in connection with these tumors concerns the origin of the gland structures. They are probably similar to the gland structures found in some forms of adenomyoma of the uterus and described by Von Recklinghausen as probably originating from misplaced remains of the Wolffian bodies. Cullen, in his article, suggests, from the resemblance of the glandular structures in his tumor to the normal uterine glands, that they may result from abnormal embryonic deposit of some part of Müller's duct.

In our case we are dealing with a tumor situated external to the inguinal canal but attached to its floor. There is no definite attachment to the round ligament, but this has been the case in several examples of myoma of the round ligament, as, for example, some of those reported by Roustan. The histological structure and situation almost preclude its origin from anything but the round ligament, and the sharp localization of the gland structures in the neighborhood of a sharply localized group of blood vessels indicates the probability of a pedicle having at one time existed at this point. The glandular structures found in the tumor resemble more those seen in Cullen's case than those described by Von Recklinghausen as occurring in adenomyoma of the uterus. They differ from those seen in Cullen's case only in the absence of the surrounding stroma, which was also absent in a few places in the tumor which he described.

The glandular elements in our tumor certainly do not fulfil all the requirements laid down by Von Recklinghausen as indicating an origin from the Wolffian body. The appearances described by him are: 1. The presence of narrow canals or collections of tubes, or wider ampulla-like openings, lined with ciliated epithelium. 2. A cellular basement substance surrounding the glands. 3. The presence of a straw-yellow pigment in the gland openings. 4. The presence of the so-called



pseudo-glomeruli. The gland elements in our cases, especially the cross sections, very closely resembled cross sections of uterine glands without the usual stroma, and this would suggest, as in Cullen's case, a possible origin from transplanted portions of Müller's duct. The chronicity of the growth and its general characteristics would lead one to place it among the non-malignant neoplasms—a position which Von Recklinghausen and Cullen have also accorded to this class of growths. From a developmental standpoint this case seems to bridge the gap between Cullen's case, in which only gland elements were present, and Martin's, in which cyst formation played the principal rôle.

14 JAY STREET.

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